

# 19"/2<sup>®</sup> RM2101



## Cisco Gigabit Router

The RM2101 is based on the Cisco ESR6300 router, offering high performance levels and a wide range of routing and switching capabilities, all fitted inside a 1U half rack unit.

### Small form factor

The MilDef 19"/2<sup>®</sup> form factor is optimized for reduced size, weight, and power (SWaP) to meet industry and military requirements without sacrificing reliability, ruggedness or performance.

### Flexible mounting

The 19"/2<sup>®</sup> standard enables flexible mounting options for a wide array of integration scenarios. The unit can be mounted in a standard 19" rack, half racks, or directly on to a surface and at any angle.

### Military-relevant rugged design

MilDef products are designed to operate in extreme environmental conditions and challenging electromagnetic operational scenarios. Operationally proven, MilDef products are actively employed in military operations in over 60 countries.

### Guaranteed performance

MilDef products are designed for the long lifecycles of military programs and come with a lifetime support program to ensure your equipment maintains peak performance for many missions to come.

We also guarantee the availability of spare parts for an additional 5 years after product end-of-life.

### Features

- Based on Cisco ESR6300
- Cisco IOS XE
- Comprehensive Layer 2/3 switching
- IPv4 and IPv6 unicast and multicast routing
- Unified Communications Manager Express support
- Firewall support

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## Connector Interfaces

|                         |                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------|
| <b>SERVICE</b> (back)   | • 1x RS232 Service                                                                                     |
| <b>X1 DC IN</b> (front) | • 1x Power                                                                                             |
| <b>X2</b> (front)       | • 2x ETH WAN 1000BASE-T                                                                                |
| <b>X3, X4</b> (front)   | 2 connectors which each has: <ul style="list-style-type: none"> <li>• 2x ETH LAN 1000BASE-T</li> </ul> |
| <b>X5</b> (front)       | • 1x USB3                                                                                              |
| <b>X6</b> (front)       | • 1x Cisco serial console                                                                              |
| <b>X7</b> (front)       | • 1x USB Console                                                                                       |

## Other Interfaces

1x System button (front)

## Technical Specification

|                              |                                                                                                                                                                                                                                   |
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| <b>Blanking</b>              | Enable/disable all externally visible indicators from emitting light via the "blanking command"                                                                                                                                   |
| <b>Cisco IOS XE software</b> | ESR6300<br>Network Essentials or Network Advantage<br>Default (50 Mbps)<br>Performance (250 Mbps)<br>Boost (2 Gbps)<br>Optional licenses for CME, Cisco DNA Center and HSEC                                                       |
| <b>Factory reset</b>         | Factory reset by pressing the system button for 12 sec                                                                                                                                                                            |
| <b>Firewall</b>              | Zone-based policy firewall<br>Stateful inspection<br>Advanced application inspection and control<br>HTTPS/FTP/Telnet Authentication Proxy<br>Dynamic and static port security<br>Firewall stateful failover<br>VRF-aware firewall |
| <b>LAN 1000BASE-T</b>        | 1000BASE-T standard                                                                                                                                                                                                               |
| <b>Management</b>            | Web UI<br>MIB<br>SmartPort<br>SNMP<br>Syslog<br>DHCP server<br>SPAN session<br>Full Flexible Netflow (FnF)<br>RADIUS<br>HSRP                                                                                                      |
| <b>Reference design</b>      | Based on the Cisco ESR6300                                                                                                                                                                                                        |

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| <b>Router features</b> | GRE and MGRE<br>802.1D STP<br>NAT<br>DDNS<br>IPv4 and IPv6 Multicast<br>OSPF, BGP, EIGRP, RIP v1-v2<br>L2TP<br>VPN for remote access<br>IPSec over IPv6<br>Cisco IOS Firewall<br>2 routed and 4 switched Gigabit Ethernet interfaces |
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| <b>Security</b> | SSL VPN<br>NGE<br>PKI support<br>IPSEC<br>IPSEC stateful failover<br>VRF-aware IPSEC<br>Easy VPN<br>DMVPN<br>Flex VPN<br>SSHv2<br>MACsec<br>Port security<br>802.1x<br>DHCP snooping<br>Dynamic ARP inspection<br>IP source guard<br>Guest VLAN<br>MAC authentication bypass<br>802.1x multidomain authentication<br>Storm control<br>SCP<br>SNMPv3<br>TACACS+<br>RADIUS server/client<br>Integrated Threat Control (CoPP, etc) |
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| <b>Electronics ground to chassis</b> | Isolated                                                                                                     |
| <b>MIL-STD-1275E</b>                 | Fully compliant                                                                                              |
| <b>Polarity protection</b>           | Protected against incorrect polarity connection on the power input within the normal operating voltage range |
| <b>Power consumption</b>             | At 28 VDC:<br>Max 16 W<br>Typ 14 W<br>Idle 8 W                                                               |
| <b>Power input</b>                   | 12-32 VDC                                                                                                    |
| <b>Power to chassis</b>              | Isolated                                                                                                     |
| <b>Power to electronics ground</b>   | Isolated                                                                                                     |
| <b>Chassis material</b>              | Aluminum                                                                                                     |
| <b>Coating and color</b>             | Dupont AE0305-6603120 (RAL6031)                                                                              |
| <b>Cooling</b>                       | Passively cooled                                                                                             |
| <b>Dimensions width and height</b>   | 220 x 43.4 mm (8.66 x 1.71 in) (WxH)                                                                         |

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|                           |                 |
|---------------------------|-----------------|
| Earth point               | M6 12 mm        |
| Surface treatment chassis | Chromit-Al      |
| Unit depth                | 226 mm (8.9 in) |
| Weight                    | 2 kg (4.5 lbs)  |
| MTBF                      | > 300,000 h     |
| CE                        | Compliant       |

## Environmental Specification

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|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Functional shock - Operating           | MIL-STD-810H, Method 516.8, Procedure I - Functional shock. Table 516.8-IV, Terminal peak sawtooth pulse, Ground materiel<br>40 g<br>11 ms |
| High temperature - Operating           | MIL-STD-810H, Method 501.7, Procedure II - Operation<br>65 °C (149 °F) (Optional 71 °C (160 °))                                            |
| High temperature - Storage             | MIL-STD-810H, Method 501.7, Procedure I - Storage<br>71 °C (160 °F)                                                                        |
| Humidity                               | MIL-STD-810H, Method 507.6, Procedure II - Aggravated<br>95 ± 4% RH<br>Ten 24-hour cycles                                                  |
| IP Class (Solid Particle Protection)   | IP Class 6X                                                                                                                                |
| IP Class (Water)                       | IP Class X5                                                                                                                                |
| Low air pressure - Rapid decompression | MIL-STD-810H, Method 500.6, Procedure III - Rapid decompression<br>2,438 m (8,000 ft)<br>12,192 m (40,000 ft)                              |
| Low air pressure - Operating           | MIL-STD-810H, Method 500.6, Procedure II - Operation/air carriage<br>4,572 m (15,000 ft)                                                   |
| Low temperature - Operating            | MIL-STD-810H, Method 502.7, Procedure II - Operation<br>-40 °C (-40 °F)                                                                    |
| Low temperature - Storage              | MIL-STD-810H, Method 502.7, Procedure I - Storage<br>-40 °C (-40 °F)                                                                       |
| Noise level                            | Maximum noise level of 40 dB SPL A-weighting at 1 m (3.3 ft) distance                                                                      |
| Salt fog                               | MIL-STD-810H, Method 509.7<br>5 ± 1% (by weight)<br>Two cycles, 24 h wet + 24 h dry / cycle                                                |
| Temperature shock - Operating          | MIL-STD 810H, Method 503.7, Procedure I-C, - Multi-cycle shocks from constant extreme temperature<br>55 °C (131 °F)<br>-40 °C (-40 °F)     |

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| Vibration - Helicopter | MIL-STD-810H, Method 514.8, Procedure I - General vibration, Category 14 - Rotary wing aircraft - helicopter |
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| Vibration - Loose cargo | MIL-STD-810H, Method 514.8, Procedure II - Loose cargo transportation, Category 5 - Truck/trailer - loose cargo |
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| Vibration - Tracked vehicle | MIL-STD-810H, Method 514.8, Procedure I - General vibration, Category 20 - Ground vehicle - ground mobile, Tracked vehicle |
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| Vibration - Wheeled vehicle | MIL-STD-810H, Method 514.8, Procedure I - General vibration, Category 20 - Ground vehicle - ground mobile, Wheeled vehicle |
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## EMC Specification

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| EMI conducted CE102 | MIL-STD-461F, Method CE102, Conducted emissions, power leads<br>BASIC CURVE<br>10 kHz - 10 MHz |
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| EMI radiated RE102 | MIL-STD-461F, Method RE102, Radiated emissions, electric field Navy Mobile & Army<br>2 MHz - 18 GHz |
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| EMS conducted CS101 | MIL-STD-461F, Method CS101, Conducted susceptibility, power leads<br>CURVE #1<br>30 Hz - 150 kHz |
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| EMS conducted CS114 | MIL-STD-461F, Method CS114, Conducted bulk susceptibility Army, Ground<br>10 kHz - 200 MHz |
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| EMS conducted CS115 | MIL-STD-461F, Method CS115, Conducted susceptibility, bulk cable injection, impulse excitation |
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| EMS conducted CS116 | MIL-STD-461F, Method CS116, Conducted susceptibility, damped sinusoidal transients, cables and power leads<br>10 kHz - 100 MHz |
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| EMS radiated RS103 | MIL-STD-461F, Method RS103, Radiated susceptibility, electric field Army<br>2 MHz - 1 GHz |
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| ESD | EN61000-4-2:2009 Level 3<br>EN55024:1998 Performance criteria B + A1:2001 + A2:2003 |
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